

CLAIMS

1. A device for projecting an alignment guide onto a workpiece, the device comprising:-

a mount for mounting the device to the workpiece, upon which workpiece the device is to project the alignment guide; and

5 a self-levelling projector for projecting the alignment guide onto the workpiece in a predetermined orientation relative to the vertical;

the device characterised in that the projector is articulated to the mount in use so that the alignment guide emanates from a point adjacent a substantially horizontal line extending outwards of and through the location on the surface of the workpiece
10 where the mount is situated.

2. A device according to claim 1, wherein the projector is articulated to the mount in use so that the alignment guide emanates from that point on the workpiece where the mount is situated.

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3. A device according to claim 1 or 2, wherein the projector is adapted to self-level in a plurality of equilibrium conditions.

4. A device according to claim 3, further comprising a support for the projector,
20 wherein the support is adapted to receive the projector in a plurality of orientations.

5. A device according to claim 3, further comprising a first body part for supporting the projector and a second body part adapted to engage the first body part in first and second orientations relative thereto to define respective first and second
25 equilibrium conditions.

6. A device according to claim 5, further comprising locking means for locking said first and second body parts relative to each other in said first and second orientations.

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7. A device according to claim 6, wherein the first and second body parts are pivotable relative to each other about a first axis between said first and second orientations.
- 5 8. A device according to claim 6 or 7, wherein the locking means comprises at least one first pivot part provided on one of said first or second body part, and at least one second pivot part provided on the other of said first or second body part, wherein at least one said first pivot part is adapted to be displaced relative to at least one said second pivot part in a direction substantially parallel to said first axis between an
10 unlocked condition in which said first and second body parts are pivotable relative to each other about said first axis, and a locked condition in which said first and second body parts are prevented from pivoting relative to each other.
9. A device according to claim 8, wherein the first pivot part comprises a pin
15 having a first portion of substantially circular cross section, and a second portion of non-circular cross section, wherein the second portion is adapted to engage a non-circular aperture in a said second pivot part in the locked condition.
10. A device according to claim 9, wherein said second portion is of cross-shaped
20 cross section.
11. A device according to any one of claims 8 to 10, wherein the first and second body parts are pivotable relative to each other about a second axis, transverse to said first axis, and the device further comprises engaging means for enabling
25 alignment of said first and second body parts in a predetermined orientation relative to each other.
12. A device according to claim 11, wherein the engaging means comprises at least one respective abutment member provided on said first and/or second body
30 part for engaging the other of said first or second body part.
13. A device according to any one of claims 5 to 12, wherein the second body part is adapted to accommodate a battery for supplying electrical power to the projector.

14. A device according to any one of the preceding claims, further comprising adjustment means for adjusting the position of the projector relative to the axis of articulation thereof to the mount.

5 15. A device according to claim 14, wherein the adjustment means includes a screw thread.

16. A device according to any one of the preceding claims, wherein the projector is adapted to self-level under the influence of gravity.

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17. A device according to claim 16, wherein the projector is adapted to act like a pendulum in order to self-level.

15 18. A device according to claim 17, wherein the action of the pendulum is damped in order to prevent excess oscillation.

19. A device according to any one of the preceding claims, wherein the projector is freely rotatable about the mount.

20 20. A device according to claim 19, wherein the projector is articulated to the mount via a ball race bearing assembly.

21. A device according to any one of the preceding claims, wherein the projector includes a laser emitter.

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22. A device according to any one of the preceding claims, wherein the alignment guide comprises a visible line, lines, cross wires or a grid.

30 23. A device according to any one of the preceding claims, wherein the alignment guide is adapted to provide a reference point on the workpiece which is substantially horizontally or vertically aligned with that position on the workpiece where the mount is situated.

24. A device according to any one of the preceding claims, wherein the mount comprises a generally cylindrical projection which is resiliently radially expandable or contractable.

5 25. A device according to any one of the preceding claims, wherein the projector is pivotably mounted to the mount about a third axis substantially perpendicular to the axis of articulation thereof to the mount.

10 26. A device according to any one of the preceding claims, wherein the mount comprises an aperture for engaging an existing fixing on the workpiece.

27. A device for projecting an alignment guide onto a workpiece, the device substantially as hereinbefore described with reference to the accompanying drawings.

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28. A kit of parts for enabling a plurality of aligned holes, cuts or rebates to be formed within a workpiece, the kit of parts comprising:

- i) a power tool for forming an initial hole cut or rebate in the workpiece, and;
- ii) a device for projecting an alignment guide onto a workpiece, the device

20 comprising:

a mount adapted to be mounted to a workpiece; and

a self-levelling projector for projecting the alignment guide onto the workpiece in a predetermined orientation relative to the vertical;

25 the device characterised in that the projector is articulated to the mount in use so that the alignment guide emanates from a point adjacent a substantially horizontal line extending outwards of and through the location on the surface of the workpiece where the mount is situated.

30 29. A kit of parts according to claim 28, wherein the projecting device is removably retained on or contained within the power tool.

30. A kit of parts for enabling a plurality of aligned holes, cuts or rebates to be formed within a workpiece, the kit of parts substantially as hereinbefore described with reference to Figure 5 of the accompanying drawings.

31. A method for projecting a self-levelling alignment guide onto a workpiece, the method comprising the steps of:

fitting a mount within a cut, hole or rebate, or attaching the mount to a projection, which mount is articulated to a self-levelling projector; and

- 5 projecting, from the self-levelling projector, an alignment guide onto the workpiece; which alignment guide is projected onto the workpiece in a predetermined orientation relative to the vertical.

32. A method according to claim 31, further comprising the step of forming said
10 hole, cut or rebate within the workpiece, or attaching a projection thereto.

33. A method for projecting a self-levelling alignment guide onto a workpiece, the method substantially as hereinbefore described with reference to the accompanying drawings.